

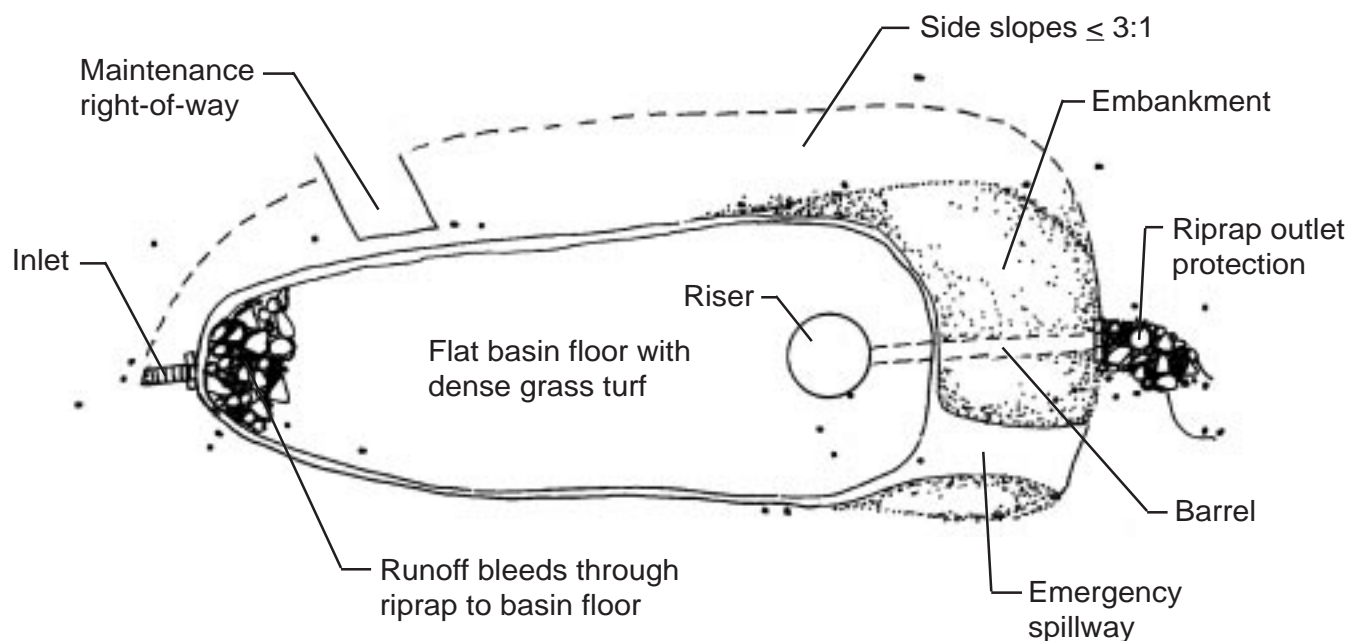
PRIMARY USE: Remove soluble and fine particulate pollutants in urban runoff in large drainage areas.
ADDITIONAL USES: Provide the flow control of peak discharges of large design storms and groundwater recharge.

COMBINED INFILTRATION/DETENTION BASIN

What is it? As with basic detention ponds this BMP utilizes a rip-rap settling basin to trap runoff entering the basin, where coarse sediment drops out. Remaining runoff filters through the rip-rap apron, spreading over the basin floor. A two year control orifice is located several feet (approximately one meter) above the pond bottom, to create a dead storage zone. Runoff in the dead storage zone is completely infiltrated.

Purpose

Infiltration/detention basins are cost-effective and can be practically designed to maintain the natural water balance of a site, including sites as large as 50 acres (20 hectares). Besides treating stormwater for pollutant removal, they also provide opportunities for flow control of large design storms' peak discharges and groundwater recharge.



**Combined Infiltration / Detention Basin
Plan View**

Limitations

Soils must be permeable and stable. Bedrock and water tables should be well below the soil surface.

Materials

Materials commonly associated with detention ponds, i.e., rip-rap, turf, and spillway, piping and related plumbing fixtures suitable for construction of the barrel/riser.

Installation

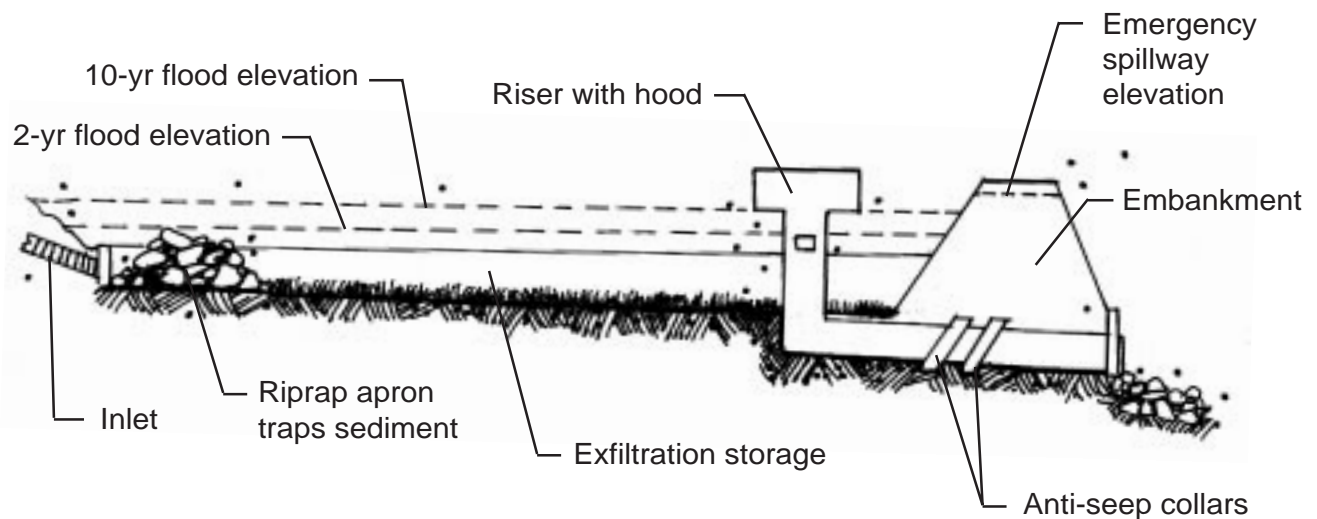
Where baseflow may exist, a low flow channel must be installed to convey runoff quickly through the basin.

COMBINED INFILTRATION/DETENTION BASIN**Additional Drawings and Considerations:**

This basin design also addresses problems commonly associated with simple detention ponds by:

1. trapping coarse grained sediment prior to its entering the basin, and thereby precluding clogging of soil pores on basin floors,
2. routing design stormflows through the basin without eroding or scouring the basin floor,
3. routing any base flow that might exist rapidly through the basin to preclude ponding,
4. evenly distributing runoff over the basin floor to maximize exfiltration, and
5. providing back-up drainage should failure occur with the basin's infiltration capacity.

Nuisances such as soggy ground, mosquitoes, odors, and unsightly basin floors may occur. Frequent maintenance is mandatory.



**Combined Infiltration / Detention Basin
Section View**